(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 12 September 2003 (12.09.2003)

PCT

(10) International Publication Number WO 03/074111 A1

(51) International Patent Classification7:

A61M 5/20

(21) International Application Number: PCT/GB03/00902

(22) International Filing Date: 5 March 2003 (05.03.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 0205066.4

5 March 2002 (05.03.2002) GB

(71) Applicant (for all designated States except US): OWEN MUMFORD LIMITED [GB/GB]; Brook Hill, Wood-

stock, Oxford OX20 1TU (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only):

MARSHALL,

Jeremy [GB/GB]; 16 Cranham Street, Jericho, Oxford OX2 6DD (GB). CROSSMAN, David, Danvers [GB/GB]; The Tower, Christmas Common, Oxford OX9 5HL (GB).

(74) Agents: JAMES, Michael, John, Gwynne et al.; Wynne-Jones Laine & James, 22 Rodney Road, Cheltenham, Gloucestershire GL50 1JJ (GB).

(81) Designated States (national): JP, US.

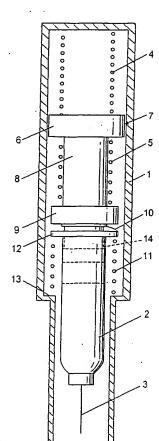
(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MULTI-SPRING SUPPORT FOR NEEDLE SYRINGES



(57) Abstract: When a trigger of an injection device is released, a main spring (4) expands, driving a member (7) forwards. This compresses a weak spring (11), but a spring (5) is stiff enough to remain expanded. A syringe (2) is thus thrust forwards via a collar (9), so that a needle (3) projects from a barrel (1). The spring (4) continues to expand after the syringe has reached its forward position, with the spring (11) fully compressed, so that the stem (8) of the member (7) acts on a piston (14) within the syringe (2), to expel the dose while the spring (5) is caused to be compressed. The spring (5) ensures that the syringe is retained in its forward position during this phase.

WO 03/074111 A1